

WHAT IS CLAIMED IS:

1. A reflecting mirror comprising:

a substrate which is substantially transparent or transmits light having a predetermined wavelength;

a reflecting film which is formed on one surface of the substrate in a thickness direction thereof and reflects light entering from the other thickness direction surface side; and

a photocatalytic hydrophilic film which is formed on the other thickness direction surface of the substrate, and has hydrophilicity and photocatalytic properties, wherein the photocatalytic hydrophilic film is formed by mixing silicon dioxide and titanium dioxide together, a mass ratio of the titanium dioxide in the photocatalytic hydrophilic film is in a range of 30% to 70%, and the photocatalytic hydrophilic film has a film thickness in a range of 120 nm to 180 nm.
2. A reflecting mirror comprising:

a substrate which is substantially transparent or transmits light having a predetermined wavelength;

a reflecting film which is formed on one surface of the substrate in a thickness direction thereof and reflects light entering from the other thickness direction surface side;

a photocatalytic hydrophilic film which is formed on the other thickness direction surface of the substrate, and has hydrophilicity and photocatalytic properties,

a substantially transparent film which is formed between the photocatalytic hydrophilic film and the substrate, and has higher refractive index than that of the photocatalytic hydrophilic film,

wherein the photocatalytic hydrophilic film is formed by mixing silicon dioxide and titanium dioxide together, a the mass ratio of the titanium dioxide in the photocatalytic hydrophilic film is in a range of 30% to 70%, and the photocatalytic hydrophilic film has a film thickness in a range of 50 nm to 120 nm.

3. A reflecting mirror according to claim 2, wherein the transparent film is mainly made of tin dioxide and has a film thickness in a range of 40 nm to 120 nm.

4. A reflecting mirror according to claim 1, further comprising, a thin film-shaped transmittance changing part which is disposed between the reflecting film and the substrate, and in which light transmittance changes under predetermined conditions.

5. A reflecting mirror according to claim 2, further comprising, a thin film-shaped transmittance changing part which is formed between the reflecting film and the substrate, and in which light transmittance changes under predetermined conditions.

6. A reflecting mirror according to claim 3, further comprising, a thin film-shaped transmittance changing part which is formed between the reflecting film and the substrate, and in which light transmittance changes under predetermined conditions.

7. A reflecting mirror according to claim 1, wherein the substrate is a glass substrate.

8. A reflecting mirror according to claim 2, wherein the substrate is a glass substrate.

9. A reflecting mirror according to claim 1, wherein the mass ratio of titanium dioxide in the photocatalytic hydrophilic film is in a range of 50% to 60%.

10. A reflecting mirror according to claim 2, wherein the mass ratio of titanium dioxide in the photocatalytic hydrophilic film is in a range of 50% to 60%.

11. A reflecting mirror according to claim 4, wherein the transmittance changing part includes an electrochromic element.

12. A reflecting mirror according to claim 5, wherein the transmittance changing part includes an electrochromic element.

13. A reflecting mirror according to claim 4, wherein the transmittance changing part includes a liquid crystal element.

14. A reflecting mirror according to claim 5, wherein the transmittance changing part includes a liquid crystal element.

15. A reflecting mirror according to claim 1, wherein the photocatalytic hydrophilic film contains granular photocatalyst particles which are buried in the photocatalytic hydrophilic film and are mainly made of titanium dioxide.

16. A reflecting mirror according to claim 2, wherein the photocatalytic hydrophilic film contains granular photocatalyst particles which are buried in the photocatalytic hydrophilic film and are mainly made of titanium dioxide.

17. A reflecting mirror according to claim 15, wherein the photocatalyst particles have a particle diameter in a range of 30 nm to 80 nm, and are substantially uniformly distributed in the photocatalytic hydrophilic film.

18. A reflecting mirror according to claim 16, wherein the photocatalyst particles have a particle diameter in a range of 30 nm to 80 nm, and are substantially uniformly distributed in the photocatalytic hydrophilic film.

19. A reflecting mirror according to claim 15, wherein the photocatalytic hydrophilic film has a matrix-like internal structure, and the photocatalyst particles are buried in voids formed intermittently therein.

20. A reflecting mirror according to claim 16, wherein the photocatalytic hydrophilic film has a matrix-like internal structure, and the photocatalyst particles are buried in voids formed intermittently therein.